

GUSHCHIN, V.V., gornyy inzh.; LITVINOV, I.D., gornyy inzh.; MITROFANOV,
I.K., gornyy inzh.; NOVOZHILOV, M.G., gornyy inzh.; POLYAKOV, V.G.,
gornyy inzh.; SEVORTSOV, P.V., gornyy inzh.

"Mining handbook," vol. 1: Strip mining. Reviewed by V.V. Gushchin
and others. Gor.zhur. no.4:76-77 Ap '61. (MIRA 14:4)
(Strip mining--Handbooks)

LITVINOV, I.D., gornyy inzh. [deceased]; VLASOV, G.Yu., gornyy inzh.;
OSAULENKO, P.L., gornyy inzh.; ROZINOYER, B.L., gornyy inzh.

Development of breaking methods in mines of the "Apatit"
Combine. Gor. zhur. no.11:3-7 N '63. (MIRA 17:6)

1. Kombinat "Apatit."

LITVINOV, I.F., dotsent, kand.tekhn.nauk

Using liquefied gases in the heating systems of passenger cars.
Sbor. LIIZHT no.168:251-257 '60. (MIRA 13:10)
(Railroads--Cars--Heating and ventilation)
(Liquefied gases)

SUBJECT	USSE / PHYSICS	CARD 1 / 2	PA - 1593
AUTHOR	LITVINOV, I.I.		
TITLE	The Equivalence Scheme of a Semiconductor Triode at High Frequencies.		
PERIODICAL	Radiotekhnika, 11, fasc. 10, 25-29 (1956)		
	Issued: 11 / 1956		

The task of determining the equivalence scheme of a semiconductor triode leads to the production of an electromodel which is able to reproduce the transition process with sufficient accuracy. Such methods have already been suggested first by FORLEY and later by SHEA, where the latter is the more accurate method, but both have disadvantages, as the analysis of even the most simple tasks was rendered considerably more complicated. The present work tries on the one hand to find a scheme which takes the particular properties of the transition characteristic into account with sufficient accuracy, and on the other, is relatively simple for purposes of analysis.

In the following the construction of such a scheme is demonstrated, on which occasion not the approximated expression, but the curve easily obtained by direct experimental determination with the help of experimental impulses is approximated. The parameters of the approximation function are then determined from the frequency characteristic of the semiconductor triode in accordance with formulae given here. The formulae which are eventually obtained show that the transition- and thus also the frequency characteristic

SOV/108-13-2-9/15

AUTHOR: Litvinov, I. I., Regular Member of the Society

TITLE: Effect of Operating Conditions of a Triode Translator on Frequency Characteristics and Pulse Rise Time
tion (Vliyaniye zavisimosti chastotnykh svoystv poluprovodnikovogo trioda ot yego elektricheskogo rezhima na dlitel'nost' frontov)

PERIODICAL: Radiotekhnika, 1958, Vol. 13, Nr 2, pp. 54 - 58 (USSR)
Received: April 25, 1958

ABSTRACT: The influence of the dependence of frequency properties of a semiconductor triode on the mode of electric operation of the latter on the step rise duration generated with a reactance in relaxation self-excited alternating current generator is investigated here. On the strength of the graphical-analytical analysis given here the following is determined: 1) The dependence of the frequency properties of the semiconductor triode on the mode of electric operation of the latter leads to a prolongation of the step rise duration. 2) The influence of the mentioned de-

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Effect of Operating Conditions of a Triode Transistor on
Frequency Characteristics and Pulse Rise Time

pendence on the step rise duration is comparatively weak.
This influence is the weaker, the smaller the ratio (4)

$$(U_K^* - U_{K_{\min}}) / (U_{K_{\max}} - U_{K_{\min}}) \text{ is.}$$

(here = 0,4). 3) If the ratio (4) does not exceed 0,3-0,4 the modification of the frequency properties can be neglected in the computation of the front under taking into account of the real character of the $k = f(U_K)$ curve. 4) The influence of the alteration of the frequency properties in the semiconductor triode on the duration of trailing edge is considerably greater. However, also in this case its influence is the weaker, the smaller the ratio (4) is. 5) The ratio (4) depends on the properties of the triode itself (U_K^*) as well as on the scheme type and on the parameter values of the scheme ($U_{K_{\min}}$, $U_{K_{\max}}$). The most convenient method for the reduction of the ratio (4) is an increase of $U_{K_{\max}}$. This can be obtained by the selection of a rational circuit for the relaxation self-excited alter-

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Effect of Operating Conditions of a Triode Transistor on Frequency Characteristics and Pulse Rise Time

nating current generator (e.g. the circuit with a collector-dipole yields the smallest $U_{K_{max}}$ value under equal conditions), and by a corresponding selection of the circuit parameters. In most cases this will be obtained by the reduction of R_B and R_K and increase of E_K . From this point of view it is expedient to choose triodes with a small U_K^* .

Thus the dependence of the frequency properties on the mode of electric operation observed in the semiconductor triodes leads in a series of cases to the stretching of the trailing edge of the generated pulse. By a rational selection of the circuit and its parameters, however, the influence of the mentioned nonlinearity can be reduced to a minimum. There are 5 figures and 6 references, 2 of which are Soviet.

SUBMITTED: July 8, 1957 (initially) and December 20, 1957 (after revision)

Card 3/3

LITVINOV, I.I.

Effect of circuit parameters and semiconductor triodes on the
duration of fronts in pulse generators having one reactor.
Radiotekhnika 14 no.1:55-61 Ja '59. (MIRA 12:2)
(Oscillators, Transistor)

L 26084-66 EWT(1)/EWT(m)/FCC/T IJP(c) GW/DS/WW/RO/JK
 ACC NR: AP6011063 SOURCE CODE: UR/0004/66/000/003/0010/0011

AUTHOR: Litvinov, I

ORG: none

TITLE: Aerosol⁶ and cloud⁸ study facilities at Obninsk (USSR)

SOURCE: Znaniye - sila, no. 3, 1966, 10-11

TOPIC TAGS: micrometeorology, aerosol, cloud physics, fog, atmospheric cloud

ABSTRACT: The Aerosol Laboratory of the Institute of Applied Geophysics (Main Administration of the Hydrometeorological Service, Soviet of Ministers USSR), which is located at Obninsk, site of the 300-m meteorological tower, consists of a large vertical cloud chamber and several special wind tunnels. The cloud chamber is as high as a five-story building and has five interior balconies. Instruments can be installed at any point inside the chamber. All machinery and pipeline valves can be controlled from a central control console which also contains all signalling facilities and recorders for registering instrument readings. The 3200-m³ chamber can be filled with dense fog (steam) in 2-3 min.

Icing phenomena can be studied in a special horizontal wind tunnel. Air is forced through its 80-cm working section at about 300 km/hr by a 400-kw motor at a rate of 150,000 m³/hr.

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ACC NR: AP6011063

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Two five-story, 100-m³, double-walled, cylindrical, thermobaric chambers are available for studies of vertical currents. Coolant is circulated between the walls, the outsides of the chambers are insulated, and the facility is equipped with vacuum pumps, making it possible to achieve a pressure of 0.04 atm and a temperature of -45° C within the chambers. Consequently, clouds can be forced to rise from a simulated height of 5.5 km to their maximum height of existence, ascending and descending currents can be set up, clouds can be evacuated from the chambers, and the chambers can be filled with fresh air or "new" clouds. The chambers are now being used to study supercooled clouds.

A 50-m vertical wind tunnel was installed to facilitate studies of rain-drop formation and rain clouds. The first story below the actual wind tunnel is a hermetically sealed chamber shaped like an old radio loudspeaker whose small end is the entrance to the wind tunnel. Aerosols, dust particles, water droplets, or a combination can be introduced simultaneously through jets at the entrance; then they pass through the working section at relatively low speeds. Instruments can be installed at any point inside the wind tunnel, which is equipped with large observation window, by special manipulators regulated from a central console. Orig. art. has: 3 figures.

[ATD PRESS: 4217-F]

SUB CODE: 04 / SUBM DATE: none

Card 2/2 ac

LITVINOV, I.M., kand.tekhn.nauk

Rapid (field) method for selecting concrete mixes using un-
tested cements. Stroi.prom. 27 no.2:24-3 of cover
F '49. (MIRA 13:2)

1. Yuzhnyy nauchno-issledovatel'skiy institut po stroitel'-
stvu.

(Concrete) (Cement)

LITVINOV, I.M., kand.tekhn.nauk

Rapid (field) method for selecting concrete mixes using un-
tested cements. Stroi.prom. 27 no.11:23-24 N '49.
(MIRA 13:2)

1. Yuzhnyy nauchno-issledovatel'skiy institut po stroitel'stvu.
(Concrete--Testing)

LITVINOV, I.M.

Technology

Study of ground under field conditions, Moskva, Ugletekhizdat, 1951.

Monthly List of Russian Accesssions, Library of Congress, December 1952. Unclassified.

3338 LITVINOV, I. M.

Pribory dlya issledovaniya gruntov v polevykh usloviyakh. Kiev, Izd-vo Akad. arkhitekturya U.S.S.R., 1954. 28s. s ill 22 sm (M-vo stroitel'stva Predpriyatnya metallurgicheskaya i khim. Prom-sti SSSR. Tekhn. Upr. Yuz. Nauchicel. In-t Po stroitel'stvu. YUZ NII). 3.500 ekz. 90K (54-57144) P

LITVINOV, I.M., kandidat tekhnicheskikh nauk; ORLOV, Ye.I.,
~~otvetstvennyi~~ otvetstvennyi redaktor; KOROVENKOVA, Z.A., tekhnicheskii
redaktor.

[Testing soils under field conditions] Issledovanie gruntov
v polevykh usloviakh. Izd.2-e, dop. Moskva, Ugletekhizdat,
1954. 222 p. (MLRA 7:12)
(Soil mechanics)

LITVINOV, I.M.

[Soil research under field conditions] Issledovania gruntov
v polevykh usloviakh. Izd. 2-o. Moskva, Ugletekhizdat, 1954.
224 p. (MLRA 8:2D)

(Ivan Mikhailovich)

LITVINOV, I.M., kandidat tekhnicheskikh nauk.

Thermal stabilization of settled loess-type soils. Strel.prom.33
no.10:9-15 0 '55. (MLRA 9:1)

1.Yuzhnyy nauchno-issledovatel'skiy institut.
(Soil stabilization)

LITVINOV, Ivan Mikhaylovich; DANILKINA, N.V., red.; NEMCHENKO, I.Ye.,
tekhn.raz.

[Basic requirements concerning the planning and conducting of operations to be performed in the thermal stabilization of soils] Osnovnye trebovaniia k proektirovaniu i proizvodstvu rabot po termicheskomu ukrepleniiu gruntov. Kiev, Gos.izd-vo lit-ry po stroit. i arkhitekt. USSR, 1959. 53 p. (MIRA 12:11)

1. Daystvitel'nyy chlen Akademii stroitel'stva i arkhitektury USSR (for Litvinov).
(Soil stabilization)

LITVINOV, I.M., akademik-sekretar'

Exchange of delegates of scientists and specialists between the
U.S.S.R. and the United States. Prom. stroi. i inzh. secr. 1 no.1:
53-62 0 '59. (MIRA 13:12)

1. Akademiya stroitel'stva i arkhitektury USSR.
(Russia—Relations (General) with the United States)
(United States--Relations (General) with Russia)

LITVINOV, I.M.; OSTASHEV, N.A., kand.tekhn.nauk

Thermal stabilization of sagging loess soils. Rats.i izobr.
predl.v stroi. no.12:32-35 '59. (MIRA 13:5)

1. Deyatvitel'nyy chlen Akademii stroitel'stva i arkhitektury
USSR (for Litvinov). 2. Po materialam Yuzhnogo nauchno-issledovatel'-
skogo instituta promyshlennogo stroitel'stva (YuzhNII)
Akademii stroitel'stva i arkhitektury USSR, Khar'kov, Yumovskaya
ul., 18.

✓ (Loess) (Soil stabilization)

PETRENKO, G.M., kand. tekhn. nauk, dots., otv. red.; BEZRUK, V.M.,
doktor geol.-miner. nauk, prof., red.; DRANNIKOV, A.M.,
doktor geol.-min. nauk, prof., red.; LITVINOV, I.M., red.;
REL'TOV, B.F., kand. tekhn. nauk, red.; RZHANITSYN, B.A.,
doktor tekhn. nauk, prof., red.; DMITRIYEVA, I.K., red.

[Materials of the Conference on the Stabilization and
Packing of Soils] Materialy Soveshchaniia po zakrepleniiu
i uplotneniiu gruntov. Kiev, Akad. stroit. i arkhitekt. SSSR,
1962, 462 p. (MIRA 16:6)

1. Soveshchaniye po zakrepleniiu i uplotneniiu gruntov,
Kiyev, 1962. 2. Gosudarstvennyy vsesoyuznyy dorozhnyy nauchno-
issledovatel'skiy institut (for Bezruk). 3. Kiyevskiy inzh-
verno-stroitel'nyy institut (for Drannikov, Petrenko). 4. Vse-
soyuznyy nauchno-issledovatel'skiy institut gidrotekhniki (for
Rel'tov). 5. Nauchno-issledovatel'skiy institut osnovaniy Aka-
demii stroitel'stva i arkhitektury SSSR (for Rzhantsyn).
(Soil stabilization)

LITVINOV, I.M., kand. tekhn. nauk

Characteristics of large-panel construction under complex
soil conditions of the Ukraine. Stroi.konstr. no.1:20-30
'65. (MIRA 19:1)

1. Nauchno-issledovatel'skiy institut stroitel'nykh
konstruktsiy Gosstroya SSSR, Kiev.

LITVINOV, I.M., kand.tekhn.nauk

Full-scale testing of large-panel buildings on sagging soil
in the Ukraine. Stroikonstr. no.2:155-176 '65.

(MIRA 18:12)

1. Nauchno-issledovatel'skiy institut stroitel'nykh
konstruktsiy Gosstroya SSSR, Kiev.

ZAMURA, V.G. (Novosibirsk); LITVINOV, I.R. (Novosibirsk).

Modernizing the sand box on the VI22^m electric locomotive. Zhel.
dor.transp. 37 no.7:80 J1 '56. (MLRA 9:8)

1. Zamestitel' nachal'nika sluzhby lokomotivnogo khozyaystva Tomskoy
dorogi (for Zamura); 2. Glavnyy inzhener sluzhby lokomotivnogo
khozyaystva (for Litvinov)
(Electric locomotives)

LITVINOV, I.R.

Transferring of sand on the H8 electric locomotive. Elek.1
tepl.tiaga 3 no.10:17 0 '59. (MIEA 13:2)

1. Glavnyy inzhener sluzhby lokomotivnogo khozyaystva Tomskey
dorogi.
(Electric locomotives--Equipment and supplies)

~~LITVINOV~~, I.R.; ZAZHIRKO, V.N., assistant; BABICH, V.M., starshiy
prepodavatel'

Slippage-preventive circuit of N8 series electric locomotives.
Elek. 1 tepl. tiaga 4 no. 9:8-11 S '60. (MIRA 13:12)

1. Glavnyy inzhener sluzhby lokomotivnogo khozyaystva Tomskoy
dorogi (for Litvinov). 2. Tomskiy elektromekhanicheskiy
institut inzhenerov zheleznodorozhnogo transporta (for Zazhirko,
Babich).

(Electric locomotives)

KARASEV, M.F.; KOZLOV, V.N.; KOZLOVSKIY, O.M.; LITVINOV, I.R.;
TRUSHKOV, A.M.; FALEYEV, V.A.

Experimental study of the sparking of electric locomotive
traction motors during operation. Izv. vys. ucheb. zav.;
elektromekh. 4 no. 1:68-74 '61. (MIRA 14:4)
(Electric railway motors)

SHEPELEV, A.A.; LITVINOV, I.R.

Results of the operation of N8 electric locomotives on the Tomsk Railroad. Zhel.dor.transp. 43 no.3:17-23 Mr '61.

(MIRA 14:3)

1. Zamestitel' nachal'nika Tomskoy dorogi (for Shepelev). 2. Glavnyy inzh.sluzhby lokomotivnogo khozyaystva Tomskoy dorogi (for Litvinov).
(Electric locomotives)

LITVINOV, I.R.; MAKAREVICH, V.S.; SMIRNOV, B.A., inzh., retsenzent;
ZUBLEVSKIY, S.M., inzh., red.; VOROB'YEVA, L.V., tekhn.red.

[Organization of the technical inspection of d.c. locomotives;
experience of the Western Siberia Railroad] Organizatsiia
tekhnicheskogo osmotra elektrovozov postoiannogo toka; opyt
Zapadno-Sibirskoi dorogi. Moskva, Transzheldorizdat, 1963.
95 p. (MIRA 16:12)

(Electric locomotives)

ZAMURA, V.G. (Novosibirsk); LITVINOV, I.R. (Novosibirsk)

New developments in the organization of locomotive maintenance and repair. Zhel. dor. transp. 47 no.1:38-42 Ja '65.

(MIRA 18:3)

1. Nachel'nik sluzhby lokomotivnogo khozyaystva Zapadno-Sibirskoy dorogi (for Zamura). 2. Glavnyy inzh. sluzhby lokomotivnogo khozyaystva Zapadno-Sibirskoy dorogi (for Litvinov).

LITVINOV, I. V.

USSR/Geophysics - Meteorology

FD-2582

Card 1/1 . Pub. 44 12/19

Author : Litvinov, I. V.

Title : ~~Continuous self-recorder of rainfall intensity~~
Continuous self-recorder of rainfall intensity

Periodical : Izv. AN SSSR, Ser. geofiz, Jul-Aug 55, 381-383

Abstract : The author describes an instrument used for the automatic recording of the rate of rainfall. This apparatus can perform some functions which present-day pluviographs cannot do. No references.

Institution : Geophysics Institute, Academy of Sciences USSR

Submitted : July 13, 1954

LITVINOV, I. V.

LITVINOV, I. V. "The Problem of the Structure and Transformation of Precipitates." Inst of Applied Geophysics. Acad Sci USSR. Moscow, 1956. (Dissertation for the Degree of Physicomathematical Science)

So: Knizhnaya Letopis', No. 19, 1956.

LITVINOV, I.V.

Spectrum of rain. Izv.AN SSSR. Ser.geofiz. no.1: 114-116 Ja '56.
(MLRA 9:3)

1. Akademiya nauk SSSR, Geofizicheskiy institut.
(Rain and rainfall--Spectra)

Litvinov, I. V.

Litvinov, I. V. Vzrastanie i razvitiye tverdykh chastits na spekre dozhdia. Effect of the
nucleation of solid particles on the rain spectrum. Atmosfera, No. 2, 1956, p. 111-112. 2 p.
No. 2 132 201 Feb 1956. Atmosfera, No. 2, 1956, p. 111-112. 2 p. The author discusses
the hypothesis that the spectrum of rain formed by the melting of solid particles is
characterized by the presence of a peak.

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LITVINOV, I.V.

Determining the steady rate of fall of snowflakes. Izv.AN SSSR.
Ser.geofiz.no.7:853-856 JI '56. (MLRA 9:9)

1.Akademiya nauk SSSR, Geofizicheskiy institut.
(Snow)

LITVINOV, I.V.

Raindrop size distribution functions. Izv.AN SSSR Ser.geofiz.
no.12:1474-1483 '56. (MIRA 10:10)

1. AN SSSR, Geofizicheskiy institut.
(Rain and rainfall)

AUTHOR: Litvinov, I. V.

49-6-21/21

TITLE: On the distribution function of liquid precipitation particles. (O funktsii raspredeleniya chastits zhidkikh osadkov).

PERIODICAL: "Izvestiya Akademii Nauk, Seriya Geofizicheskaya" (Bulletin of the Ac.Sc., Geophysics Series), 1957, No.6, pp. 838-839 (U.S.S.R.)

ABSTRACT: Litvinov, I.V. (1) has found that a spectral distribution of the rain droplets formed by the thawing of the solid particles with various degrees of grain distribution is not described adequately by the distribution functions of Marshall-Palmer, Best and by the logarithmic normal functions. Litvinov proposes a distribution function which describes better the spectral distribution of rain of various types, namely:

$$\rho = N e^{-\lambda d^{3/2}}, \quad (1)$$

where ρ is the distribution density of droplets of the dia d , N and λ are the power functions of the precipitation intensity, whereby the constants of the power functions differ for rains of various types. Additional calculations indicate that the distribution of various rains

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49-6-21/21

On the distribution function of liquid precipitation particles. (Cont.)

are also satisfactorily described by a function described by Polyakova, Ye. A. and Shifrin, K. S. (2), namely:

$$p = A d^2 e^{-\gamma d}, \quad (2)$$

where A and γ are functions of the precipitation intensity. The graphs, Fig.1-3, indicate results of verification as to what extent the function of the latter mentioned authors satisfy measured data of the distribution for rains of various types. It was found that in addition to the function, eq.(1), the distribution function, eq.(2), can also be utilised.

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There are 3 figures and 2 Slavic references.

SUBMITTED: January 22, 1957.

ASSOCIATION: Institute of Physics of the Atmosphere, Ac.Sc. U.S.S.R. (Akademiya Nauk SSSR Institut Fiziki Atmosfery).

AVAILABLE: Library of Congress

AUTHOR: Litvinov, I.V.

SOV/49-58-7-8/16

TITLE: Spectral Distribution of Raindrops Produced from Thawing Hail (Spektral'noye raspredeleniye kapel' v dozhdyakh, obrazovannykh tayaniyem grada)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, pp 903 - 912 (USSR)

ABSTRACT: The measurements were carried out of the spectral distribution of the rain produced from thawing hail. It was observed that this type of rain has a special character. Several typical rainfalls were chosen for a detailed analysis. Their intensities are shown in Figure 1a, where the co-ordinates represent the time (t) at the intervals of 15 min and the amount of rain (l) in mm. It may be noted that the frequency of the larger raindrops was always higher at the beginning of the fall. The spectral distribution of the rainfalls is shown in Figure 2 (representing a selection of 135 spectra), the co-ordinates giving the drop diameter and the log of their distribution. It can be seen that the experimentally prepared graphs agree fairly well with the Marshall-Palmer's function of the diameter distribution (?).

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SOV/49-58-7-8/16

Spectral Distribution of Raindrops Produced from Thawing Hail

The spectral distribution is seen in Figure 3. This again can be shown as a Best's function (8) where F - water amount in a drop, a , n - constants. The above two functions can be combined, giving a curve (Figure 4). In order to verify the spectral distribution, the function (9) was applied. The data was tabulated (Table 1) and given in a form of graphs (Figure 5), showing clearly the distribution of the raindrop size. Similarly, the function (10) is represented by Figure 6 in order to show an uneven distribution of the drop diameter. This uneven distribution can be seen on most of the curves as a definite minimum at the drop diameter $d = 1.75 \pm 0.25$ mm (Figure 7). It was difficult to explain this phenomenon without further experimentation. Therefore, a special apparatus was designed (Figure 8) by means of which a spray of water could be separated from the larger drops of thawing hail. The spectral distribution curve of the spray showed the minimum at $d = 1.05$ mm with the largest drop diameter about 1.6 mm.

Consequently, it was assumed that the spectral distribution of the rain, as carried out previously, was the result of

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Spectral Distribution of Raindrops Produced from Thawing Hail

the superimposing of two different distributions: the spectral distribution caused by the nucleus of the thawing hail and the spectral distribution of water spray blown off the thawing hail granules.

A third possibility should also be considered. When the freezing level in the atmosphere is situated above the lower saturation surface, the falling hail will attract the cloud drops, which would not freeze due to the higher temperature of the surroundings. These drops will also show a minimum on the spectral distribution curve.

Thus, a feature of the minimum formed in the centre of the spectral distribution curve can be considered as a sign by which the rain can be recognised as being of hail origin. There are 9 figures, 2 tables and 14 references, 6 of which are Soviet and 8 English.

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Spectral Distribution of Raindrops Produced from Thawing Hail

SOV/49-58-7-8/16

ASSOCIATION: Akademiya nauk SSSR Institut prikladnoy geofiziki
(Ac.Sc.USSR, Institute of Applied Geophysics)

SUBMITTED: March 20, 1957

card 4/4

1. Raindrops--Measurement
2. Raindrops--Spectra
3. Raindrops--Density
4. Mathematics--Applications

LITVINOV, I V

49-58-2-16/18

AUTHOR: Litvinov, I.V.

TITLE: On the Origin of Multilayer Hail (O proislozhdenii mnogosloynnykh gradin)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, Nr 2, pp.277-279 (USSR)

ABSTRACT: The author investigates in some detail the causes bringing about formation on hail of transparent as well as non-transparent layers. He found that in the case of high water content formation may take place of a transparent layer when the air temperature reaches low negative values and the cloud does not contain large enough drops. The opaque central core in a multi-layer hail particle is attributed to the fact that for small diameters of a growing basic particle a very high water content in the cloud is required if a transparent layer is to form and the likelihood of this is very small. As was shown by Fraser et alii (Ref.8), the formation of mound shaped ice is possible in the case of high water content of the cloud and this probably explains the observation by Abich of hail with protrusions and mounds. Formation of pear-shaped and plate-shaped hail is possible if the hail falls through a cloud of a high water content. Thereby, a part of the

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49-58-2-16/18

On the Origin of Multilayer Hail.

precipitating water does not freeze immediately after precipitation, gradually scattering and freezing; obviously freezing of the water will take place at the edges of the hail, where heat release is largest and heat supply smallest. The existence of multi-layers is explained by the fact that during its fall the hail intersects regions of the cloud with large or small water contents; during flight through a region with a high water content an increase takes place in the temperature of the hail surface and this brings about the formation of transparent ice, whilst during flight through an area with reduced water contents the temperature of the surface of the hail decreases and opaque ice will form. According to the calculations of N.S. Shishkin, a distance of 100-300 m is required if a layer of 1-2 mm thick is to form and this is in agreement with the diameters of the "bubbles" and "streams" observed during formation of cumulus clouds. Intersection of a "stream" with a

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49-58-2-16/18

On the Origin of Multilayer Hail.

growing hail particle may take place if it is inclined by wind relative to the horizontal. There are 2 figures and 10 references, 7 of them Russian and 3 English.

ASSOCIATION: Academy of Sciences of the USSR, Institute of Applied Geophysics (Akademiya nauk SSSR, Institut prikladnoy geofiziki)

SUBMITTED: March 20, 1957.

AVAILABLE: Library of Congress.

Card 3/3

SOV/49-59-7-9/22

AUTHOR: Litvinov, I. V.

TITLE: A Method of Measuring the Distribution of a Mass of Falling Snowflakes

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 7, pp 1011-1017 (USSR)

ABSTRACT: The method was elaborated by the El'brus expedition, Academy of Sciences, USSR. It is based on the formula (1) where $q(d)$ - distribution function of the flakes in a plane, $V(d)$ - their velocity, $f(d)$ - distribution of flakes in space (d - equivalent diameter of the water drop produced from a snowflake). The apparatus employed in the measurement is illustrated in Fig 1, showing the source of light 1, 2, 3 which produces a parallel light beam 4. The photographic camera 6 is focussed on the area 5. A photograph 13 x 18 cm is obtained of the falling snowflakes (Fig 2). Thus, the distribution function $f(a)$ (a - visual flake dimension) can be obtained. The relationship of a and d can be defined as $a = \gamma(d)$ which was determined experimentally by means of another apparatus illustrated in Fig 3. Here, a snowflake passes through two openings, 2, 3 and 4, into a space 5, part of which is lit by the light beam 6. The falling flake, when passing the

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A Method of Measuring the Distribution of a Mass of Falling Snow-flakes

photocell 7 , causes the lamp 10 to pulsate. The flake, falling through the space 5 and lit by this pulsating lamp, is photographed several times before it rests on a layer of grease 19 where it melts and the water drops thus produced are photographed again (Fig 4, top - falling flake; bottom - drops of a melted flake. The accuracy of the value γ obtained from photographs, depends on the intensity of precipitation (Eq (2)). This was measured with an apparatus illustrated in Fig 5 where the weight of snowflakes was recorded on the rotating cylinder 4 . The results of measuring are illustrated in Figs 6-9. Fig 6 shows the relationship of d and a as obtained from the second apparatus, Fig 7 - the relationship of velocity of flakes and the diameter d , Fig 8 - the intensity of precipitation as obtained from the third apparatus and calculated from Eq (2). Fig 9 shows some examples of the flake density ρ

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A Method of Measuring the Distribution of a Mass of Falling Snow-
flakes

in relation to its equivalent diameter d . Thanks are
given to P. V. Volovikov for his part in the experiments.
There are 9 figures and 6 references, of which 1 is Soviet,
1 is German and 4 are English.

ASSOCIATION: Akademiya nauk SSSR, Institut prikladnoy geofiziki
(Academy of Sciences USSR, Institute of Applied Geophysics)

SUBMITTED: May 17, 1958.

Card 3/3

ANTSyshkin, S.P.; BOBYLEV, G.V.; GORYACHEV, I.V.; ISACHENKO, Kh.M.; KOVALIN, D.T.; LAVRENT'YEV, V.A.; LITVINOV, I.V.; MUKIN, A.F.; PEREPECHIN, B.M.; PIS'MENNYI, N.R.; REBROVA, G.I.; SERGEYEV, P.A.; SOBINCov, A.M.; FEDOROV, P.F.; FILINOV, N.P.; KHRAMISOV, N.N.; KAZAKOVA, Ye.D., red.; BALLOD, A.I., tekhn. red.

[Reference book for foresters] Spravochnik lesnichego. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1961. 894 p. (MIRA 14:7)
(Forests and forestry)

LITVINOV, I.V.

Methodological problems in studying spectral distribution of
cloud particles. Trudy Vysokogor. geofiz. inst. AN SSSR 2:87-92
'61. (MIRA 14:12)

(Cloud physics)

VERESIN, Mikhail Mikhaylovich; MAMYRIN, Mikhail Alekseyevich;
SHEMYAKIN, Ivan Yakovlevich; YAKUBYUK, Aleksey Nikolayevich;
LITVINOV, I.V., red.; KARLOVA, G.L., tekhn. red.

[Centennial afforestation practices in the Savala Forest
Tract] Stoletnii opyt lesorazvedeniia v saval'skom lesni-
chestve. [By] M.M.Veressin i dr. Moskva, Goslesbumizdat, 1963.
159 p. (MIRA 17:4)

KUTANIN, V.M.; LITVINOV, I.V.

Testing the performance of the ESU-1 liquid level indicator.
Khol.tekh. 40 no.5:53-54 S-0 '63. (MIRA 16:11)

L 38155-66 EWT(d)

ACC NR: AP6025640

SOURCE CODE: UR/0413/66/000/013/0092/0092

INVENTOR: Gryts'kiv, I. V.; Litvinov, I. V.; Lobodin, V. M.

ORG: none

TITLE: Airplane cloud-transparency meter. Class 42, No. 183440

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 13, 1966, 92

TOPIC TAGS: airborne photoelectric detection, aircraft guidance equipment, aircraft flight instrument

ABSTRACT: An Author Certificate has been issued for an airplane cloud-transparency meter consisting of a light-beam modulator spun by an electric motor, an optical

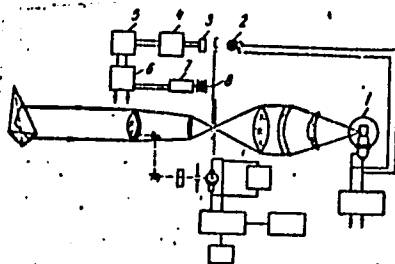


Fig. 1. Airplane cloud-transparency meter

1 - Main illuminator; 2 - additional illuminator; 3 - photoresistance; 4 - photocurrent amplifier; 5 - detector; 6 - direct-current amplifier; 7 - electric motor; 8 - modulator.

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UDC: 551.508.92

L 38155-66

ACC NR: AP6025640

system, a reflector, a measuring photocell, a recording device, and a power supply (see Fig. 1). In order to obtain direct measurements of a certain parameter, in the illuminator circuit is an additional illuminator, the light beam from which is detected by a photoresistor connected through a photocurrent amplifier to the frequency-phase-detector input which, through the power amplifier, maintains a constant rotational speed of the light-beam-modulator's electric motor. Orig. art. has: 1 figure. [KT]

SUB CODE: Q, 09, 17/ SUBM DATE: 21Apr65/ ATD PRESS: 5044

Card 2/2 MLP

LITVINOV, K. N.

PA 7/49T46

USSR/Communications
Telephone Lines
Efficiency, Industrial

Sep 148

"Stakhanovite Methods Employed by A. I. Artamonov of
the First Section of Line Maintenance Crews," K. M.
Litvinov, Engr, 1 p

"Vest Svyazi - Elektrosvyaz'" No 9 (102)

Artamonov works on the city telephone system in
Ryazan'. Describes his work.

7/49T46

SOV/81-59-12-41476 67983

Translation from: Referativnyy zhurnal. Khimiya, 1959, No. 12, p 35 (USSR)

AUTHORS: Pastushuk, N.S., Litvinov, L.B., Reznik, M.V., Korsunskiy, M.I.

TITLE: The Negative Photoconductivity of Thin Layers of Selenium With
Admixtures of Tellurium

PERIODICAL: Tr. Khar'kovsk. politekhn. in-ta, 1958, Vol 14, pp 111-115

ABSTRACT: The photoconductivity σ of thin layers of amorphous Se with an admixture of Te dusted in vacuum on glass backing at room temperature has been investigated. The darkness conductivity σ_0 of the studied layers is extremely low. It has been shown that the investigated samples have a noticeable negative photoconductivity observed at very weak electric fields (10^{-2} V/cm). The ratio of the dark current to the light current is 1.2-2. The time of establishing the stationary value of σ is equal to 15 - 20 minutes, and the time of relaxation of the "negative" σ_0 , determined from the moment of switching off the light to establishing the equilibrium value, is 12 - 16 hours. It has been pointed out that there is no theory which can explain the described phenomena.

V. Ostroborodova

Card 1/1

~~LITVINOV, L.D.~~

Pheochromocytoma. Urologia 23 no.5:52-54 S-O '58 (MIRA 11:11)

1. Iz khirurgicheskogo otdelniya (zav. - prof. D.E. Odinov)
Moskovskoy gorodskoy bol'nitsy No.53
(PHEOCHROMOCYTOMA, case reports
(Rus))

NOL', Ya.A. [deceased]; PRUNIS, N.M.; BEREZIN, I.P., kand.med.nauk;
LITVINOV, L.D.

Rare case of reticulosarcoma of the stomach. Nov.khir.arkh.
no.11:84-85 '61. (MIRA 14:12)

1. Khirurgicheskoye otdeleniye Moskovskoy gorodskoy bol'nitsy
No.53.
(STOMACH--TUMORS) (RETICULO-ENDOTHELIAL SYSTEM--TUMORS)

LITVINOV, L. D. (Moskva)

Nonspecific ulcers of the small intestine. Klin. med. no.8:106-109
'61. (MIRA 15:4)

1. Iz khirurgicheskogo otdeleniya Moskovskoy gorodskoy bol'nitsy
No. 53 (vedushchiy khirurg - prof. D. E. Odinov, glavnyy vrach
S. G. Rinkevich)

(INTESTINES--ULCERS)

LITVINOV, L.D.; LITVINOVA, M.R. (Moskva)

Gastrointestinal ulcers in relation to various types of hormone therapy; review of literature. Probl. endokr. gormonoter. 9 no.4:110-112 J1-Ag'63 (MIRA 17:1)

LITVINOV L.F.

VARENBUD, R.I.; LENDER, G.F.. redaktor, LITVINOV, L.F.; FRUMKIN, P.S.,
tekhnicheskii redaktor

[Installation of capstans] Montazh shpilei. [Leningrad] Gos. izd-
vo sudostroit. lit-ry, 1953. 32 p. [Microfilm] (MLRA 7:10)
(Capstan)

RUSSIYAN, S.V.; GOLOVANOV, N.N.; LEBEDEV, K.P., otvetstvennyy redaktor;
LITVINOV, L.F., redaktor; FRUMKIN, P.S., tekhnicheskiy redaktor

[Technology and organization of precision casting] Tekhnologiya i
organizatsiya proizvodstva tochnogo lit'ia. [Leningrad] Gos. izd-vo
sudostroitel'nykh lit-ry, 1953. 138 p. [Microfilm] (MIRA 9:9)
(Precision casting)

LITVINOV, L.N.

Constant attention and concern of society to public health. Sov.
zdrav. 22 no.2:6-10 '63. (MIRA 16:2)

1. Sekretar' Tul'skogo oblasnogo komiteta Kommunisticheskoy
partii Sovetskogo Soyuzá, Tula.
(PUBLIC HEALTH)

FEDOSEYEV, V.M.; LITVINOV, L.N.

S-derivatives of thiourea. Part 8: Synthesis of 2-hydroxy-5-isothio-
uroniummethylthiazoline. *Zhur.ob.khim.* 34 no.2:557-560 F '64.
(MIRA 17:3)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.

LITVINOV, L.N., kandidat tekhnicheskikh nauk.

Calculating several types of arch centers for laminated
concreting of reinforced concrete bridges. Trudy MILT
no.85/86:156-173 '56.

(MLRA 9:10)

(Bridges, Arched)

LITVINOV, L.N., kand.tekhn.nauk

Use of autocranes for poling. Transp.stroi. 11 no.3:19-21 yr '61.
(MIRA 14:3)

(Cranes, derricks, etc.) (Electric lines--Poles)

LITVINOV, L.N., kand.tekhn.nauk

Attachment mounted on diesel pile driver. Transp. stroi.
11 no.5:50 My '61. (MIRA 14:6)
(Piling (Civil engineering)—Equipment and supplies)

LITVINOV, L.N., kand.tekhn.nauk; MORIGEROVSKIY, V.M., kand.tekhn.nauk;
LEVSHIN, S.V., inzh.; SHKLYAYEV, A.V., inzh.

Driving piles with diesel hammers not of the drop hammer type.
Transp. stroi. ll no.7:13-14 Jl '61. (MIRA 14:7)
(Piling (Civil engineering))

LITVINOV, L.N., kand.tekhn.nauk

Temporary footings and scaffoldings made of reinforced concrete
pipe. Transp. stroi. 12 no.9:23-25 'S '62. (MIRA 16:2)
(Bridge construction)
(Pipe, Concrete)

LITVINOV, L.N., kand.tekhn.nauk; SOLOV'YEV, A.I., inzh.; IERUSALIMOV, Ye.P.,
inzh.

Driving piles without a pile driver using the UR-1250 diesel
hammer. Transp. stroi. 13 no.2:17-18 F '63. (MIRA 16:3)
(Piling (Civil engineering))

LITVINOV, L.N., kand.tekhn.nauk

Three-dimensional truss of precast concrete. Transp. stroi. 13
no.6:19-21 Je '63. (MIRA 16:9)

(Trusses)

LITVINOV, L.A.; PETROV, G.A.

Vibration-damping foundation of the model 236 molding machine.
Lit. proizv. no.4:14-15 Ap '64. (MIRA 18:7)

12

LITVINOV, L. S.

Inhibitory effect of tomato juice on the germination of tomato seed. L. S. Litvinov. *Bull. inst. recherches biol. Verm* 11, 103-70 (in English, 171) (1964); *Chimie & Industrie* 41, 568. — The essential cause for the inhibitory effect of tomato juice on the germination of tomato seed lies in the osmotic pressure of the juice. The specific org. substances present in the latter (which are destroyed by boiling) retard germination only slightly. This inhibitory effect is not specific of tomato juice; it is also produced by other fruit juices. A. P. C.

12

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

12

LITVINOV, L. S.

30216

I Kobryn', E. M. Nablyudyeniya nad vliyaniyem adsorbyentov. na enyergiyu brozhyeniy. Trudy in-ta fiziologii rastyenyi im. Timiryazyeva, T. VI, vyp. 2 1949, S. 143-49. --Bibliogr: 13 nazv.

Pisarzhyevskiy, O. Po slyedam nyevyedomykh vragov.--Sm. 30543

ya. Hidrobiclogiya

Gayevskaya, N.S. --Sm. 30217

SO: LETOPIS' NO. 34

*observation of adsorption
influence on fermentation?*

LITVINOV, L.S.

[Soil aridity and resistance of plants to it] O pochvennoi
zasukhe i ustoiчивosti k nei rastenii. L'vov, Izd. L'vovskogo
univ., 1951. 139 p. (MIRA 13:9)
(Arid regions) (Plants--Water requirements)

LITVINOV, I.S.; GEBGARDT, A.G.

Culture of microflora in soil. Doklady Akad. nauk SSSR 83 no.2:299-302 11 Mar 1952. (CLML 22:1)

1. Presented by Academician A. I. Oparin 17 January 1952. 2. Institute of Biochemistry imeni A. M. Bakh, Academy of Sciences USSR.

LITVINOV, L.S.[Lytvynov, L.S.]; GEBGARDT, A.G.[Gebhardt, O.H.]

Experiment in large-scale use of bacterial fertilizers on the V.I.
Lenin Collective Farm in Kanenka-Bugskaya District, Lvov Province.
Pratsi Inst. agrobiol. AN URSR 2[pt. 2]:97-103 '53. (MIRA 11:7)
(Soil inoculation)

LITVINOV, L.S.; ASTAF'YEVA, N.V.

Immobilization of potassium in soil [with summary in English].
Mikrobiologii 26 no.2:167-171 Mar-Apr '57. (MIRA 10:10)

1. L'vovskiy gosudarstvennyy universitet.

(POTASSIUM

immobilization in soil (Rus))

(SOIL

potassium immobilization in soil (Rus))

LITVINOV, L.S.; RIPETSKIY, R.T. [Rypets'kiy, R.T.]

Mineralization of organophosphates in the Carpathian brown soil.
Mikrobiol.zhur. 23 no.1:9-14 '61. (MIRA 14:5)

1. L'vovskiy universitet im. I.Ya.Franka.
(PHOSPHORUS ORGANIC COMPOUNDS)
(CARPATHIAN MOUNTAINS---SOILS---MICROBIOLOGY)

KOVALEV, A.F., inzh.; KANIVETS, A.P., inzh.; LITVINOV, L.Ya., inzh.;
MIKHAYLETS, L.Ya., inzh.

Causes for the failure of anchor bolting. Shakht.stroi.
4 no.9:20-23 S '60. (MIRA 13:8)

1. Nauchno-issledovatel'skiy geologo-razvedochnyy institut.
(Mine roof bolting)

LITVINOV, L.Ya., inzh.; GUREVICH, M.L., inzh.

Construction of a continuous billet mill at the Yenakiyev
Metallurgical Plant. From. stroi. 42 no.1:8-11 '65.

1. Donetskij otdel tresta "Ukrmontazhgorstroy".

LITVINOV, L.Ya., inzh.; GUREVICH, M.L., inzh.

Redconstruction of a blast furnace at the Yenakiyevskiy Plant by the
shifting method. Prom. Stroi. 42 no.9:7-12 S '64. (MIRA 17:10)

1. Donetskii otdel tresta Ukrmontazhorgstroy.

LITVINOV, M.

Standardization of electric lighting in harbors. Mor.flot 7
no.1:5-7 Ja '47. (MLRA 9:5)
(Harbors) (Electric lighting)

LITVINOV, M., inzh.

How to determine the surface of an irregular figure. Nauka i
zhizn' 30 no.6:110 Ja '63. (MIRA 16:7)

(Surfaces)

LITVINOV, M. A. and TRANSHEL', V. G.

"Rust Fungi of the Genus *Tranzschelia* Arth. on *Prunus*," Botanicheski Zhurnal
SSSR, vol. 24, 1939, pp. 247-253. 451 R923

So: Sira - S1-90-53, 15 Dec. 1953

LITVINOV, M. A.

LITVINOV, M. A. "New Variant of 'the Cup' Method for Exposure of
the Anti-bacterial Activity of Fungi," Priroda, vol. 36, no.
11, 1947, pp. 58-64. 410 P933

SOURCE: SIRA SIGO-53, 15 Dec. 1953

LITVINOV. M. A.

PA 9/49T66

USSR/Medicine - Penicillium Mold

Sep 48

Medicine - Microscopy

"Method of Microscopic Study of Penicillium Type
Molds," M. A. Litvinov, N. N. Strygin, 2½ pp

"Priroda" No 9

Microscopic technique for studying penicillium type
molds differs from ordinary microscopic technique.
Summarizes information available on accepted method
for studying said molds. Refers to works by Fleming
Smith, Wehmer, Raper and Kursanov.

9/49T66

LITVINOV, M. A.

28979 Issledovanie antibakterial'nykh Svoystv U Gimenomitsetov. Priroda, 1949,
No. 9, S. 60-63,--Bibliogr: 11 Nazv.

SC: Letopis' Zhurnal'nykh Statey, Vol. 39, Moskva, 1949

LITVINOV, M.

29079

Tvoryets Russkoy Vintovki. (K 100-lyetiyu So Dlya Rozhdyeniya S. I. Moskva).
Lit. Voronyezh, 1949, No 2, G. 202-12.

10. Khimicheskaya Promyshlyennost'

B. Osnovnaya Khimicheskaya Promyshlyennost'. Promyshlyennost' Gaeov

SO: LETOPIS' No. 34

LITVINOV, M. A.

33082

O Putyakh I Metodakh Eksperimental'nogo Izucheniya Antimikrobnnykh svoystvu vysshikh
Gribov- Hymenomycetales Botan. Zhurnal, 1949, No. 5, c. 474-85 Bibliogr: 33 Nazv.

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, 1949

LITVINOV, M. A.

LITVINOV, M. A. "Study of Anti-bacterial Properties in Hymenomy-
cetes," Priroda vol. 38, no. 9, 1949, pp. 60-63. 410 P933

SOURCE: SIRA SIGO-53, 15 Dec. 1953

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Anti-microbial Properties in High Fungi (Hymenomycetales)," Botanicheskii Zhurnal SSSR, vol. 34, 1949, pp. 474-485.

SOURCE: SIRA SIGO-53, 15 Dec. 1953

1. LITVINOV, M.A., NYUKSHA, YU. P.
2. USSR (600)
7. "Book Review: A.I. Metelkin, 'I.S. Tsenkovskiy' (Founder of a School of Microbiologists), 263 pp, Moscow, 1950", Priroda, No 8, 1951, pp 87-90.
9. Mikrobiologiya, Vol XXI, Issue 1, Moscow, Jan-Feb 1952, pp 121-132. Unclassified.

LITVINOV, M. A.

USSR/Medicine - Antibiotics

Oct 51

"Review of N. A. Krasil'nikov's Book 'Antagonisti-
cally Acting Actinomycetes and Antibiotics,'"
M. A. Litvinov

"Priroda" No 10, pp 90-94

Reviews at length the book on antibiotics for which
Krasil'nikov was awarded the I. Mechnikov Prize by
Acad Sci USSR in 1951. Published by Acad Sci USSR
Publ House, Moscow/Leningrad, 1950, 303 pp.

211780

LITVINOV, M. A.

Yeast

Functional Morphology of yeast organisms. Reviewed by M. A. Litvinov. Bot. zhur. 37, no. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, April, 1952. UNCLASSIFIED.

LITVINOV, M. A.

LITVINOV, M.A.; GIRENKO, V.N.; GOLAND, M.I.; BARKOVSKAYA, N.N.

Application of luminiscence analysis to the study of species
characteristics of microscopic fungi of the genus *Aspergillus*
Mich. Trudy Bot.inst. Ser.2 no.8:45-48 '53. (MIRA 7:1)
(Fungi, Pathogenic)

LITVINOV, M.A.

LITVINOV, M.A.; BORISOV, L.B.

Materials on the experimental study of antibacterial properties
in higher basidial fungi. Trudy Bot. inst. Ser. 2 no. 8: 59-72 "53.

(MLRA 7:1)

(Basidiomycetes)

LITVINOV, M.A.

Contributions to the study of chytridial fungi of the fresh waters
of Latvia. Trudy Bot.inst. Ser.2 no.8:73-84 '53. (MIRA 7:1)
(Latvia--Phycomycetes) (Phycomycetes--Latvia)

LITVINOV M.A.

KUPREVICH, V.F.; LITVINOV, M.A.; MOISEYEVA, Ye.H.; RASSADINA, K.A.;
SAVICH, V.P.

Lichens as a source of antibiotics. Trudy Bot.inst. Ser.2 no.8:
327-356 '53. (MLRA 7:1)

(Lichens) (Antibiotics)

LITVINOV, M. A.

(5)

C. A. V-48
Jan 10, 1954
Water Sewage
and Sanitation

The role of biological factors in forming takyr along the route of the Turkmen Canal. N. I. Bazilevich, N. M. Gollerbakh, M. A. Litvinov, L. E. Rodin, and D. M. Shtetberg. *Bolan. Zhur.* 38, 3-30(1953).—A slime membrane of biol. origin (algae) coats mineral particles, reduces evapn., and decreases the upward movement of salts. This in turn encourages more algal growth. The O_2 released in the photosynthetic processes is trapped by the fibers of the algae and when silting takes place a porous structure is formed as the O_2 is forced out or reacts with the medium. With more sediment the porosity is reduced by compaction and a scaly structure ensues. On the surface, cementation causes crust formation, the cementing agents being SiO_2 , organomineral gels, and carbonates of Ca and Mg. The Na of the incoming waters causes a rise in pH. It has been noted that as the algae develop on the surface after a rain the pH rises to 8.2-8.3. J. S. Joffe